

PROJECT NUMBER : 6906
PROJECT TITLE : Biological Effects of Smoke
PROJECT LEADER : G. M. Nixon
PERIOD COVERED : July, 1991

I. SALMONELLA/MICROSOME (S/M) ASSAY (D. Stagg)

- A. **Objective:** To test the biological activity of experimental CSCs and other pertinent materials.
- B. **Results:** Twenty-eight CSCs were tested this month in support of the Cross Soluble Base Web studies. Also two pure compounds were analyzed.
- C. **Plans:** Complete ongoing studies and document all results in appropriate memos. Continue to test samples for biological activity as they become available. Continue to evaluate the "screening" assay protocol as it is currently being performed.
- D. **References:**
- Jones, R. Notebook No. 8769, p. 141.
- Stagg, D. Notebook No. 9110, p. 125.

II. 3T3 CELL BIOCHEMICAL STUDIES (G. Nixon)

- A. **Objective:** To investigate the induction of (putative) heme oxygenase (HO) in 3T3 cells under various conditions.
- B. **Results:** 3T3 whole cell extraction experiments were performed in a continuing investigation of the induction of (putative) HO. Experiments testing the effects of buthionine sulfoximine (BSO) pretreatment followed by 12-O-tetradecanoylphorbol-13-acetate (TPA) or sodium arsenite treatment were repeated using both a 2-hour [35S] methionine labeling period as in previous experiments, and a 30-minute labeling period. For the longer labeling period, results were similar for both TPA and arsenite. For the shorter labeling period, there were dramatic differences between the two compounds. TPA treatment resulted in a rapid increase in a 32kD protein (putative HO), with a corresponding decrease in actin levels. The response to arsenite in the short label protocol was minimal. Cycloheximide (CHX) was used to inhibit protein synthesis in two different protocols using a short labeling period. Results paralleled those seen for previous experiments using a two-hour labeling period. Finally, an experiment testing the effects of several inhibitors of protein kinase C was repeated using the short and long labeling periods. Results are not yet available for this experiment.
- C. **Plans:** 3T12 cells (transformed 3T3 cells) will be tested for HO induction using the same experimental protocols which were used for 3T3 cells.

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D. References:

Burruss, T. J. Notebook No. 8896, pp. 38-39.

Nixon, G. M. Notebook No. 8711, pp. 173-174.

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